What is claimed is:

1. A compound having the formula:

9 10 CH₂ 3 3 4

or a pharmaceutically acceptable salt thereof,

being (i) unsubstituted, (ii) monosubstituted and having a first substituent, or (iii) disubstituted and having a first substituent and a second substituent;

the first or second substituent, when present, being at the 3, 4, 5, 7, 8, 9, or 10 position;

the first and second substituent, when present, are independently alkyl,

15 halogen, nitro, trifluoromethyl, sulfonyl, carboxyl, alkoxycarbonyl, alkoxy, aryl, aryloxy,
arylalkyloxy, arylalkyl, cycloalkylalkyloxy, cycloalkyloxy, alkoxyalkyl, alkoxyalkoxy,
aminoalkoxy, mono- alkylaminoalkoxy, di-alkylaminoalkoxy, or a group represented by
formula (a), (b), (c), (d), (e), or (f):

20
$$R_3$$
 R_4 R_4 R_4 R_5 R

wherein R_3 and R_4 are taken together and represent alkylidene or a heteroatom-containing alkylidene or R_3 and R_4 are independently hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, aryloxyalkyl, alkoxyalkyl, aminoalkyl, mono- alkylaminoalkyl, or di-alkylaminoalkyl; and

 R_5 is hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, alkoxy, alkoxyalkyl, amino, mono-alkylamino, di-alkylamino, arylamino, arylalkylamino, cycloalkylamino, aminoalkyl, mono-alkylaminioalkyl, or di-alkylaminoalkyl.

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- 2. The compound of claim 1, wherein the first or second substituent are present at the 5, 7, or 9 position.
- 3. The compound of claim 2, wherein the first and second substituent
 10 are independently alkoxy, aryloxy, aminoalkyl, mono-alkylaminoalkyl, dialkylaminoalkyl, or a group represented by the formula (a), (c), (d), (e), or (f);

 $\rm R_3$ and $\rm R_4$ are independently hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, or cycloalkylalkyl; and

 $\rm R_{\rm 5}$ is hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, alkoxycarbonyl or 15 $\,$ cycloalkylalkyl.

4. A compound having the formula:

20

$$\begin{array}{c|c}
1 & 0 \\
N & S2 \\
9 & 6 & 5
\end{array}$$

25

or a pharmaceutically acceptable salt thereof,

being (i) unsubstituted, (ii) monosubstituted and having a first substituent, or (iii) disubstituted and having a first substituent and a second substituent;

the first or second substituent, when present, being at the 3, 4, 5, 7, 8, 9, or

30 10 position;

wherein the first and second substituent, when present, are independently alkyl, halogen, nitro, trifluoromethyl, sulfonyl, carboxyl, alkoxycarbonyl, alkoxy, aryl, aryloxy, arylalkyloxy, arylalkyl, cycloalkylalkyloxy, cycloalkyloxy, alkoxyalkyl, alkoxyalkoxy, aminoalkoxy, mono-alkylaminoalkoxy, di-alkylaminoalkoxy, or a group represented by formula (a), (b) (c), (d), (e), or (f):

wherein R₃ and R₄ are taken together and represent alkylidene or a

15 heteroatom-containing alkylidene or R₃ and R₄ are independently hydrogen, alkyl,
cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, aryloxyalkyl, alkoxyalkyl, aminoalkyl, monoalkylaminoalkyl, or di-alkylaminoalkyl; and

R_s is hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, alkoxy, alkoxyalkyl, alkoxycarbonyl, amino, mono-alkylamino, di-alkylamino, arylamino, arylamino, arylalkylamino, cycloalkylalkylamino, aminoalkyl, mono-alkylaminioalkyl, or di-alkylaminoalkyl.

- 5. The compound of claim 4, wherein the first or second substituent are present at the 5, 7, or 9 position.
- 6. The compound of claim 5, wherein the first and second substituent are independently alkoxy, aryloxy, or a group represented by the formula (a), (c), (d), (e), or (f);

 $$\rm R_{3}$$ and $\rm R_{4}$$ are independently hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, or 30~ cycloalkylalkyl; and

 $\rm R_{5}$ is hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, alkoxycarbonyl or cycloalkylalkyl.

10

7. A compound having the formula:

$$\begin{array}{c|c}
1 & 2 \\
N & O \\
8 & 7 & 6 & 5
\end{array}$$

or a pharmaceutically acceptable salt thereof,

being (i) monosubstituted and having a first substituent or (ii) disubstituted and having a first substituent and a second substituent;

the first or second substituent, when present, being at the 3, 4, 5, 7, 8, 9, or 10 position;

wherein the first and second substituent, when present, are independently alkyl, halogen, nitro, trifluoromethyl, sulfonyl, carboxyl, alkoxycarbonyl, alkoxy, aryl, aryloxy, arylalkyloxy, arylalkyl, cycloalkylalkyloxy, cycloalkyloxy, alkoxyalkyl, alkoxyalkoxy, aminoalkoxy, mono-alkylaminoalkoxy, di-alkylaminoalkoxy, or a group represented by formula (a), (b), (c) (d), (e), or (f):

20
$$R_3$$
 R_4 R_4 R_4 R_5 R

wherein R₃ and R₄ are taken together and represent alkylidene or a heteroatom-containing alkylidene or R₃ and R₄ are independently hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, aryloxyalkyl, alkoxyalkyl, aminoalkyl, mono35 alkylaminoalkyl, or di-alkylaminoalkyl; and

10

 $R_{\rm s}$ is hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, alkoxy, alkoxyalkyl, alkoxycarbonyl, amino, mono-alkylamino, di-alkylamino, arylamino, arylalkylamino, cycloalkylamino, aminoalkyl, mono-alkylaminoalkyl, or di-alkylaminoalkyl;

with the proviso that if the first substituent is halogen or alkoxy, the compound is disubstituted.

8. The compound of claim 7, wherein the first or second substituent are present at the 5, 7, or 9 position.

9. The compound of claim 8, wherein the first or second substituent are independently alkoxy, aryloxy, aminoalkyl, mono-alkylaminoalkyl, dialkylaminoalkyl, or a group represented by the formula (a), (c), (d), (e), or (f);

 $m R_3$ and $m R_4$ are independently hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, or m 15~ cycloalkylalkyl; and

 $\rm R_5$ is hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, alkoxycarbonyl or cycloalkylalkyl.

10. A compound having the formula:

20

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or a pharmaceutically acceptable salt thereof,

being (i) monosubstituted and having a first substituent present at the 5, 7, or 9 position, (ii) disubstituted and having a first substituent present at the 5 position and a second substituent present at the 7 position, (iii) disubstituted and having a first substituent present at the 5 position and a second substituent present at the 9 position, or (iv) disubstituted and having a first substituent present at the 7 position and a second substituent present at the 9 position;

wherein the first and second substituent, when present, are independently 35 alkyl, halogen, nitro, trifluoromethyl, sulfonyl, carboxyl, alkoxycarbonyl, alkoxy, aryl,

aryloxy, arylalkyloxy, arylalkyl, cycloalkylalkyloxy, cycloalkyloxy, alkoxyalkyl, alkoxyalkoxy, aminoalkoxy, mono-alkylaminoalkoxy, di-alkylaminoalkoxy, or a group represented by formula (a), (b), (c), (d), (e), or (f):

wherein R_3 and R_4 are taken together and represent alkylidene or a heteroatom-containing alkylidene or R_3 and R_4 are independently hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, aryloxyalkyl, alkoxyalkyl, aminoalkyl, mono- alkylaminoalkyl, or di-alkylaminoalkyl; and

 R_3 is hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, alkoxy, alkoxyalkyl, alkoxycarbonyl, amino, mono-alkylamino, di-alkylamino, arylamino, arylalkylamino, cycloalkylamino, aminoalkyl, mono-alkylaminioalkyl, or di-alkylaminoalkyl;

- with the proviso that when the first substituent is present at the 7 position and is halogen, nitro, or a group represented by the formula (a), the compound is disubstituted.
- 11. The compound of claim 10, wherein the first and second substituent 30 are independently alkyl, trifluoromethyl, sulfonyl, carboxyl, alkoxycarbonyl, alkoxy, aryl, aryloxy, arylalkyloxy, arylalkyl, cycloalkylalkyloxy, cycloalkyloxy, alkoxyalkyl, alkoxyalkoxy, aminoalkoxy, mono-alkylaminoalkoxy, di-alkylaminoalkoxy, or a group represented by formula (a), (c), (d), (e), or (f).
 - 12. The compound of claim 11, wherein the first and second substituent

are independently alkoxy, aryloxy, or a group represented by the formula (a), (c), (d), (e), or (f);

 $\rm R_3$ and $\rm R_4$ are independently hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, or cycloalkylalkyl; and

 $R_{\scriptscriptstyle 5}$ is hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, alkoxycarbonyl or cycloalkylalkyl.

13. A compound having the formula:

10

5

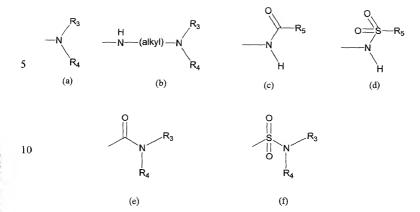
15 or a pharmaceutically acceptable salt thereof,

being (i) monosubstituted and having a first substituent present at the 5, 7, or 9 position, (ii) disubstituted and having a first substituent present at the 5 position and a second substituent present at the 9 position, (iii) disubstituted and having a first substituent present at the 7 position and a second substituent present at the 9 position, or 20 (iv) disubstituted and having a first substituent present at the 5 position and a second substituent present at the 7 position;

wherein the first and second substituent, when present, are independently alkyl, halogen, hydroxy, nitro, trifluoromethyl, sulfonyl, carboxyl, alkoxycarbonyl, alkoxy, aryl, aryloxy, arylalkyloxy, arylalkyloxy, cycloalkylalkyloxy, cycloalkyloxy, alkoxyalkyl,

25 alkoxyalkoxy, aminoalkoxy, mono-alkylaminoalkoxy, di-alkylaminoalkoxy, or a group represented by formula (a), (b), (c), (d), (e), or (f):

30



wherein R_3 and R_4 are taken together and represent alkylidene or a heteroatom-containing alkylidene or R_3 and R_4 are independently hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, aryloxyalkyl, alkoxyalkyl, aminoalkyl, monoalkylaminoalkyl, or di-alkylaminoalkyl; and

R₃ is hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, alkoxy, 20 alkoxyalkyl, alkoxycarbonylalkyl, amino, mono-alkylamino, di-alkylamino, arylamino, arylalkylamino, cycloalkylalkylamino, aminoalkyl, mono-alkylaminoalkyl, or di-alkylaminoalkyl;

with the proviso that if the first substituent is halogen or alkoxy, then the compound is disubstituted;

with the further proviso that if the compound is monosubstituted and has a first substituent at the 5 or 7 position, then the first substituent is a group represented by the formula (e) or (f);

and with the further proviso that if the compound is disubstituted and has a substituent present at the 7 position, then the substituent present at the 7 position is not a 30 group represented by the formula (a) or (c).

14. The compound of claim 13, with the proviso that if the compound is disubstituted, then at least one of the substituents is a group represented by the formula (d) or (f).

- 15. A pharmaceutical composition comprising:
- (I) a compound having the formula:

10 or a pharmaceutically acceptable salt thereof,

wherein R_0 is -O-, -S-, -S(O)-, -S(O)₂- or -CH₂-;

the compound being (i) unsubstituted, (ii) monosubstituted and having a first substituent, or (iii) disubstituted and having a first substituent and a second substituent;

the first or second substituent, when present, being at the 3, 4, 5, 7, 8, 9, or 10 position, wherein the first and second substituent, when present, are independently alkyl, halogen, nitro, trifluoromethyl, sulfonyl, carboxyl, alkoxycarbonyl, alkoxy, aryl, aryloxy, arylalkyloxy, arylalkyloxy, cycloalkylakyloxy, cycloalkyloxy, alkoxyalkyl, alkoxyalkoxy, aminoalkoxy, mono-alkylaminoalkoxy, di-alkylaminoalkoxy, or a group 20 represented by formula (a), (b), (c), (d), (e), or (f):

wherein R₃ and R₄ are taken together and represent alkylidene or a 35 heteroatom-containing alkylidene or R₃ and R₄ are independently hydrogen, alkyl,

cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, aryloxyalkyl, alkoxyalkyl, aminoalkyl, monoalkylaminoalkyl, or di-alkylaminoalkyl; and

 R_5 is hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, alkoxy, alkoxyalkyl, alkoxycarbonyl, amino, mono-alkylamino, di-alkylamino, arylamino, arylalkylamino, cycloalkylamino, aminoalkyl, mono-alkylaminioalkyl, or di-alkylaminoalkyl; and

- (II) a pharmaceutically acceptable carrier or vehicle.
- 16. A pharmaceutical composition comprising a compound, or a pharmaceutically acceptable salt of the compound, of claim 1 and a pharmaceutically acceptable carrier or vehicle.
- A pharmaceutical composition comprising a compound, or a
 pharmaceutically acceptable salt of the compound, of claim 2 and a pharmaceutically
 acceptable carrier or vehicle.
 - 18. A pharmaceutical composition comprising a compound, or a pharmaceutically acceptable salt of the compound, of claim 3 and a pharmaceutically acceptable carrier or vehicle.
 - 19. A pharmaceutical composition comprising a compound, or a pharmaceutically acceptable salt of the compound, of claim 4 and a pharmaceutically acceptable carrier or vehicle.
- 25 20. A pharmaceutical composition comprising a compound, or a pharmaceutically acceptable salt of the compound, of claim 5 and a pharmaceutically acceptable carrier or vehicle.
- 21. A pharmaceutical composition comprising a compound, or a 30 pharmaceutically acceptable salt of the compound, of claim 6 and a pharmaceutically acceptable carrier or vehicle.
- 22. A pharmaceutical composition comprising a compound, or a pharmaceutically acceptable salt of the compound, of claim 7 and a pharmaceutically acceptable carrier or vehicle.

- 23. A pharmaceutical composition comprising a compound, or a pharmaceutically acceptable salt of the compound, of claim 8 and a pharmaceutically acceptable carrier or vehicle.
- 5 24. A pharmaceutical composition comprising a compound, or a pharmaceutically acceptable salt of the compound, of claim 9 and a pharmaceutically acceptable carrier or vehicle.
- 25. A pharmaceutical composition comprising a compound, or a 10 pharmaceutically acceptable salt of the compound, of claim 10 and a pharmaceutically acceptable carrier or vehicle.
- A pharmaceutical composition comprising a compound, or a pharmaceutically acceptable salt of the compound, of claim 11 and a pharmaceutically
 acceptable carrier or vehicle.
 - 27. A pharmaceutical composition comprising a compound, or a pharmaceutically acceptable salt of the compound, of claim 12 and a pharmaceutically acceptable carrier or vehicle.
 - 28. A pharmaceutical composition comprising a compound, or a pharmaceutically acceptable salt of the compound, of claim 13 and a pharmaceutically acceptable carrier or vehicle.
- 25 29. A pharmaceutical composition comprising a compound, or a pharmaceutically acceptable salt of the compound, of claim 14 and a pharmaceutically acceptable carrier or vehicle.
- 30. A method for treating or preventing a disease associated with 30 modulation of JNK, which comprises administering to a patient in need thereof an effective amount of a compound of the formula:

$$\begin{array}{c|c}
1 & 2 \\
R_0 \\
8 & 7 & 6 \\
\hline
 & 5
\end{array}$$

or a pharmaceutically acceptable salt thereof,

10 wherein R_0 is -O-, -S-, -S(O)-, -S(O)₂- or -CH₂-;

the compound being (i) unsubstituted, (ii) monosubstituted and having a first substituent, or (iii) disubstituted and having a first substituent and a second substituent;

the first or second substituent, when present, being at the 3, 4, 5, 7, 8, 9, or

15 10 position;

wherein the first and second substituent, when present, are independently alkyl, halogen, hydroxy, nitro, trifluoromethyl, sulfonyl, carboxyl, alkoxycarbonyl, alkoxy, aryl, aryloxy, arylalkyloxy, arylalkyl, cycloalkylalkyloxy, cycloalkyloxy, alkoxyalkyl, alkoxyalkoxy, aminoalkoxy, mono-alkylaminoalkoxy, di-alkylaminoalkoxy, or a group 20 represented by formula (a), (b), (c), (d), (e), or (f):

 $\label{eq:R4} wherein R_3 \ and \ R_4 \ are taken together and represent alkylidene or a$ 35 heteroatom-containing alkylidene or R_3 and R_4 are independently hydrogen, alkyl,

cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, aryloxyalkyl, alkoxyalkyl, aminoalkyl, monoalkylaminoalkyl, or di-alkylaminoalkyl; and

R₅ is hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, alkoxy, alkoxyalkyl, alkoxycarbonyl, amino, mono-alkylamino, di-alkylamino, arylamino,
 arylalkylamino, cycloalkylamino, cycloalkylamino, aminoalkyl, mono-alkylaminioalkyl, or di-alkylaminoalkyl.

- 31. The method of claim 30, wherein the compound is monosubstituted and has a first substituent selected from the group consisting of alkoxy, aryloxy, and a 10 group represented by the formula (a), (c), (d), (e), or (f).
 - 32. The method of claim 30, wherein the compound is disubstituted.
- 33. The method of claim 32, wherein the first and second substituent 15 are independently alkoxy, aryloxy, or a group represented by the formula (a), (c), (d), (e), or (f).
- 34. A method for treating or preventing a disease associated with modulation of JNK, which comprises administering to a patient in need thereof an
 20 effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 1.
- 35. A method for treating or preventing a disease associated with modulation of JNK, which comprises administering to a patient in need thereof an
 25 effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 2.
- 36. A method for treating or preventing a disease associated with modulation of JNK, which comprises administering to a patient in need thereof an
 30 effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 3.
- 37. A method for treating or preventing a disease associated with modulation of JNK, which comprises administering to a patient in need thereof an
 35 effective amount of a compound, or a pharmaceutically acceptable salt of the compound,

of claim 4.

- 38. A method for treating or preventing a disease associated with modulation of JNK, which comprises administering to a patient in need thereof an
 5 effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 5.
- 39. A method for treating or preventing a disease associated with modulation of JNK, which comprises administering to a patient in need thereof an
 effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 6.
- 40. A method for treating or preventing a disease associated with modulation of JNK, which comprises administering to a patient in need thereof an
 effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 7.
- 41. A method for treating or preventing a disease associated with modulation of JNK, which comprises administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 8.
- 42. A method for treating or preventing a disease associated with modulation of JNK, which comprises administering to a patient in need thereof an
 25 effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 9.
- 43. A method for treating or preventing a disease associated with modulation of JNK, which comprises administering to a patient in need thereof an
 30 effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 10.
- 44. A method for treating or preventing a disease associated with modulation of JNK, which comprises administering to a patient in need thereof an
 35 effective amount of a compound, or a pharmaceutically acceptable salt of the compound,

of claim 11.

- 45. A method for treating or preventing a disease associated with modulation of JNK, which comprises administering to a patient in need thereof an
 5 effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 12.
- 46. A method for treating or preventing a disease associated with modulation of JNK, which comprises administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 13.
- 47. A method for treating or preventing a disease associated with modulation of JNK, which comprises administering to a patient in need thereof an
 15 effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 14.
- 48. A method for treating or preventing a disorder, comprising administering to a patient in need thereof an effective amount of a compound of the 20 formula:

$$\begin{array}{c|c}
1 & 2 \\
N & R_0 \\
8 & 7 & 6 & 5
\end{array}$$

25

35

or a pharmaceutically acceptable salt thereof,

wherein R_0 is -O-, -S-, -S(O)-, -S(O)₂- or -CH₂-;

the compound being (i) unsubstituted, (ii) monosubstituted and having a first substituent, or (iii) disubstituted and having a first substituent and a second substituent;

the first or second substituent, when present, being at the 3, 4, 5, 7, 8, 9, or 10 position;

wherein the first and second substituent, when present, are independently

alkyl, halogen, hydroxy, nitro, trifluoromethyl, sulfonyl, carboxyl, alkoxycarbonyl, alkoxy, aryl, aryloxy, arylalkyloxy, arylalkyl, cycloalkylalkyloxy, cycloalkyloxy, alkoxyalkyl, alkoxyalkoxy, aminoalkoxy, mono-alkylaminoalkoxy, di-alkylaminoalkoxy, or a group represented by formula (a), (b), (c), (d), (e), or (f):

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wherein R₃ and R₄ are taken together and represent alkylidene or a heteroatom-containing alkylidene, or R₃ and R₄ are independently hydrogen, alkyl, 20 cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, aryloxyalkyl, alkoxyalkyl, aminoalkyl, monoalkylaminoalkyl, or di-alkylaminoalkyl; and

(f)

 R_s is hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, alkoxy, alkoxyalkyl, alkoxycarbonylalkyl, amino, mono-alkylamino, di-alkylamino, arylamino, arylalkylamino, cycloalkylamino, cycloalkylalkylamino, aminoalkyl, mono-

25 alkylaminioalkyl, or di-alkylaminoalkyl;

(e)

wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis; osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease; irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty; left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary disease; conjunctive heart failure or a central or peripheral neurological degenerative disorder.

- 49. The method of claim 48, wherein the disorder is a central or peripheral neurological degenerative disorder, the central or peripheral neurological degenerative disorder being epilepsy, Alzheimer's disease, Parkinson's disease, Huntington's disease, amyotrophic laterial sclerosis, peripheral neuropathy, or spinal cord damage.
- 50. A method for treating or preventing a disorder, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 1,
- wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis; osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease; irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty; left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary disease; conjunctive heart failure or a central or peripheral neurological degenerative disorder.
- 20 51. A method for treating or preventing a disorder, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 2,

wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis; osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease;
25 irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty; left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary disease; conjunctive heart failure or a central or peripheral neurological degenerative disorder.

52. A method for treating or preventing a disorder, comprising administering to a patient in need thereof an effective amount of a compound, or a
 35 pharmaceutically acceptable salt of the compound, of claim 3,

wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis; osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease; irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty; left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary disease; conjunctive heart failure or a central or peripheral neurological degenerative disorder.

10

53. A method for treating or preventing a disorder, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 4,

wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis;

15 osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease; irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty; left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant

20 rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary disease; conjunctive heart failure or a central or peripheral neurological degenerative disorder.

54. A method for treating or preventing a disorder, comprising
 25 administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 5,

wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis; osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease; irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty; left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary disease; conjunctive heart failure or a central or peripheral neurological degenerative 35 disorder.

55. A method for treating or preventing a disorder, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 6,

wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis;

5 osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease; irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty, left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary disease; conjunctive heart failure or a central or peripheral neurological degenerative disorder.

56. A method for treating or preventing a disorder, comprising
 15 administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 7,

wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis; osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease; irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty; left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary disease; conjunctive heart failure or a central or peripheral neurological degenerative

57. A method for treating or preventing a disorder, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 8,

wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis; osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease; irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty; left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant

rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary disease; conjunctive heart failure or a central or peripheral neurological degenerative disorder.

58. A method for treating or preventing a disorder, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 9,

wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis; osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease;

10 irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty; left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary

15 disease; conjunctive heart failure or a central or peripheral neurological degenerative disorder.

59. A method for treating or preventing a disorder, comprising administering to a patient in need thereof an effective amount of a compound, or a 20 pharmaceutically acceptable salt of the compound, of claim 10,

wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis; osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease; irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty; left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary disease; conjunctive heart failure or a central or peripheral neurological degenerative disorder.

30

60. A method for treating or preventing a disorder, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 11,

wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis; 35 osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease; irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty; left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary disease; conjunctive heart failure or a central or peripheral neurological degenerative disorder.

61. A method for treating or preventing a disorder, comprising
10 administering to a patient in need thereof an effective amount of a compound, or a
pharmaceutically acceptable salt of the compound, of claim 12,

wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis; osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease; irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty; left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary disease; conjunctive heart failure or a central or peripheral neurological degenerative disorder.

62. A method for treating or preventing a disorder, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 13,

wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis; osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease; irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty; left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary disease; conjunctive heart failure or a central or peripheral neurological degenerative disorder.

63. A method for treating or preventing a disorder, comprising

administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 14,

wherein the disorder is rheumatoid arthritis; rheumatoid spondylitis; osteoarthritis; gout; asthma; bronchitis; cystic fibrosis; inflammatory bowel disease;

5 irritable bowel syndrome; mucous colitis; ulcerative colitis; Crohn's disease; gastritis; esophagitis; hepatitis; multiple sclerosis; endotoxin shock; psoriasis; eczema; dermatitis; atherosclerosis; restenosis following angioplasty; left ventricular hypertrophy; myocardial infarction; stroke; ischemic damage to the heart, kidney, liver, or brain; transplant rejection; systemic lupus erythomatosus; pancreatitis; chronic obstructive pulmonary disease; conjunctive heart failure or a central or peripheral neurological degenerative disorder.

64. A method for treating or preventing cancer, comprising administering to a patient in need thereof an effective amount of a compound of the formula:

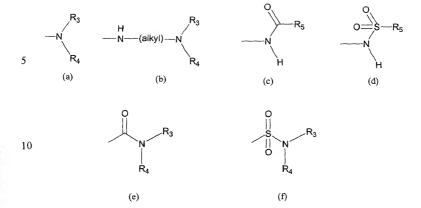
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or a pharmaceutically acceptable salt thereof,

25 the compound being (i) unsubstituted, (ii) monosubstituted and having a first substituent, or (iii) disubstituted and having a first substituent and a second substituent;

the first or second substituent, when present, being at the 3, 4, 5, 7, 8, 9, or 10 position;

wherein the first and second substituent, when present, are independently alkyl, halogen, hydroxy, nitro, trifluoromethyl, sulfonyl, carboxyl, alkoxycarbonyl, alkoxy, aryl, aryloxy, arylalkyloxy, arylalkyl, cycloalkylalkyloxy, cycloalkyloxy, alkoxyalkyl, alkoxyalkoxy, aminoalkoxy, mono-alkylaminoalkoxy, di-alkylaminoalkoxy, or a group represented by formula (a), (b), (c), (d), (e), or (f):



15 wherein R₃ and R₄ are taken together and represent alkylidene or a heteroatom-containing alkylidene, or R₃ and R₄ are independently hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, aryloxyalkyl, alkoxyalkyl, aminoalkyl, monoalkylaminoalkyl, or di-alkylaminoalkyl; and

R₅ is hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, alkoxy, 20 alkoxyalkyl, alkoxycarbonylalkyl, amino, mono-alkylamino, di-alkylamino, arylamino, arylalkylamino, cycloalkylamino, cycloalkylalkylamino, aminoalkyl, monoalkylaminioalkyl, or di-alkylaminoalkyl.

- The method of claim 64, wherein the cancer is a solid tumor. 65.
- 66 The method of claim 64, wherein the cancer is leukemia.
- 67. A method for treating or preventing cancer, comprising administering to a patient in need thereof an effective amount of a compound, or a 30 pharmaceutically acceptable salt of the compound, of claim 1, wherein the disorder is cancer.
 - 68. The method of claim 67, wherein the cancer is a solid tumor.
- 35 69. The method of claim 67, wherein the cancer is leukemia.

30

- 70. A method for treating or preventing cancer, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 2.
- 5 71. The method of claim 70, wherein the cancer is a solid tumor.
 - 72. The method of claim 70, wherein the cancer is leukemia.
- 73. A method for treating or preventing cancer, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 3.
 - 74. The method of claim 73, wherein the cancer is a solid tumor.
- The method of claim 73, wherein the cancer is leukemia.
 - 76. A method for treating or preventing cancer, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 4.
 - 77. The method of claim 76, wherein the cancer is a solid tumor.
 - 78. The method of claim 76, wherein the cancer is leukemia.
- 25 79. A method for treating or preventing cancer, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 5.
 - 80. The method of claim 79, wherein the cancer is a solid tumor.
 - 81. The method of claim 79, wherein the cancer is leukemia.
- 82. A method for treating or preventing cancer, comprising administering to a patient in need thereof an effective amount of a compound, or a
 35 pharmaceutically acceptable salt of the compound, of claim 6.

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- 83. The method of claim 82, wherein the cancer is a solid tumor.
- 84. The method of claim 82, wherein the cancer is leukemia.
- 5 85. A method for treating or preventing cancer, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 7.
 - 86. The method of claim 85, wherein the cancer is a solid tumor.
 - 87. The method of claim 85, wherein the cancer is leukemia.
- 88. A method for treating or preventing cancer, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 8.
 - 89. The method of claim 88, wherein the cancer is a solid tumor.
 - 90. The method of claim 88, wherein the cancer is leukemia.

91. A method for treating or preventing cancer, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 9.

- 25 92. The method of claim 91, wherein the cancer is a solid tumor.
 - 93. The method of claim 91, wherein the cancer is leukemia.
- 94. A method for treating or preventing cancer, comprising
 30 administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 10.
 - 95. The method of claim 94, wherein the cancer is a solid tumor.
- 35 96. The method of claim 94, wherein the cancer is leukemia.

10

	_	_	A method for treating or preventing cancer, comprising ient in need thereof an effective amount of a compound, or a ptable salt of the compound, of claim 11.
5		98.	The method of claim 97, wherein the cancer is a solid tumor.
		99.	The method of claim 97, wherein the cancer is leukemia.
10	100. A method for treating or preventing cancer, comprising administering to a patient in need thereof an effective amount of a compound, or a pharmaceutically acceptable salt of the compound, of claim 12.		
		101.	The method of claim 100, wherein the cancer is a solid tumor.
15		102.	The method of claim 100, wherein the cancer is leukemia.
20	administering to a	_	A method for treating or preventing cancer, comprising ient in need thereof an effective amount of a compound, or a eptable salt of the compound, of claim 13.
20		104.	The method of claim 103, wherein the cancer is a solid tumor.
		105.	The method of claim 103, wherein the cancer is leukemia.
25			A method for treating or preventing cancer, comprising tient in need thereof an effective amount of a compound, or a eptable salt of the compound, of claim 14.
30		107.	The method of claim 106, wherein the cancer is a solid tumor.

35

108.

109. compound, having the formula:

The method of claim 106, wherein the cancer is leukemia.

A compound, or a pharmaceutically acceptable salt of the

And the state of t

15

20

25

30

NH NO₂ O

$$\bigcap_{0}^{N-S} CH_3$$

$$\bigcap_{N \to S} CHBr_2$$

$$N-S$$
 NH_2

15

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15

AUG/AIGO LEE/SE

25

30
$$CH_2$$
 NH CH_2 NH

- 161 -

- 162 -

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5

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15671361.OEG715

5

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110. A compound, or a pharmaceutically acceptable salt of the

25 compound, having the formula:

30

35 wherein A and B are:

	A	В
	-NH ₂	-NH ₂
5	-N(CH ₂ CH ₂ CH ₂ CH ₃) ₂	-N(CH ₂ CH ₂ CH ₂ CH ₃) ₂
	-NHC ₆ H ₅	-NHC ₆ H ₅
	-OC ₆ H ₅	-OC ₆ H ₅
	-NH ₂	-N(CH ₂ CH ₂ CH ₂ CH ₃) ₂
	-NH ₂	-N(CH ₂ CH ₂ CN)(CH ₂ CH ₂ OH)
10	-NH ₂	-N(CH ₂ CH ₂ CH ₂ CH ₃) ₂
	-NHCH ₃	-NHCH ₃
	-N(CH ₃) ₂	-N(CH ₃) ₂
	-N(CH ₂ CH ₃) ₂	-N(CH ₂ CH ₃) ₂
15	-NHCH ₂ CH ₃	-NHCH₂CH₃
	-OCH ₃	-OCH ₃
	-OCH ₂ CH ₃	-OCH ₂ CH ₃
	-OCH ₂ CH ₂ OCH ₃	-OCH ₂ CH ₂ OCH ₃
20	_N	→
	-C1	-Cl
	-NHCH ₂ CH ₂ OH	-NHCH₂CH₂OH
25	-NHCH ₂ CH ₂ CH ₂ CH ₃	-NHCH ₂ CH ₂ CH ₃
	-F	-OCH ₂ CH ₂ CH ₃
	-F	-OCH(CH ₃) ₂
	-F	-OCH ₂ CH(CH ₂ CH ₃)CH ₂ CH ₂ CH ₂ CH ₃
	-F	-OCH ₂ CH ₂ OC ₆ H ₅
	-F	-OCH ₂ CH=CH ₂
	-F	-OCH₂CHCN
	-F	-O(CH ₂) ₃ OCH ₃
	-F	-O(CH ₂) ₂ O(CH ₂) ₂ OCH ₃
35	-F	-OCH ₂ C ₆ H ₅

	-F	-OCH ₂ CH ₂ OH
5	-F	-OCH ₂ (4-chlorophenyl)
	-F	-OCH ₂ CH ₂ Cl
	-F	-OCH ₂ CH ₂ CCH ₂ CH ₂ CH ₃
	-F	-O(CH ₂) ₅ CH ₃
	-F	
10		-OCH ₂ CH ₂ -N
15	-F	—OCH₂—O
20	-F	-OCH ₂ CH(OH)CH ₂ OCH ₃
	-F	-OCH ₂ CH ₂ OC(O)C ₆ H ₅
	-F	-OCH ₂ CH ₂ OCH ₂ C ₆ H ₅
	-F	-OCH ₂ C(O)OCH ₂ CH ₂ C=CH ₂
	-F	-OCH ₂ CH ₂ OCH ₃
	-F	-OCH ₂ CH ₂ C ₆ H ₅
	-F	-OCH ₃
	-F	-OCH ₂ CH ₂ OCH ₂ CH ₂ CN
	-Cl	-NHCH ₂ CH ₂ OCH ₂ CH ₂ CH ₂ CH ₂ CH ₃
	-OCH ₂ CH ₂ CH ₂ CH ₃	-NHCH ₂ CH ₂ OCH ₂ CH ₂ CH ₂ CH ₂ CH ₃
	_N_O	−N